APPENDIX E
EPA REGION 4 MOM CHECKLIST

This appendix contains information developed by EPA Region IV for evaluating Management, Operation, and Maintenance (MOM) programs for collection systems within the region. The checklist can be used to evaluate collection system operation and maintenance programs and to highlight program areas needing improvement.

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Checklist for Conducting Evaluations of Municipal Wastewater Collection System Operation and Maintenance Management Programs

Administration

Financial: User Rate/User Charge

1. What are the utility's current rates?
2. How are user rates calculated?
3. How often are user charges evaluated and adjusted based on that evaluation?
4. Does the utility receive full funding from its revenue?
5. Are utility funds used for other government activities?

Financial: Budget

6. Does the utility budget for annual operating costs?
7. Does the budget provide sufficient itemization?
8. Does the utility maintain a fund for future equipment and infrastructure replacement?
9. Does the budget provide for sufficient funding?
10. How is new work typically financed?

Financial: Public Education/Outreach

11. What type of public education/outreach programs does the utility have about user rates?
12. Do these programs include communication with several groups such as local governments, community groups, the media, young people (schools, youth organizations)?

Personnel: Organization

13. Is an organizational chart available which shows the various positions budgeted and filled?
14. Are position descriptions available?

Personnel: Operator Safety Program

15. Is there a documented safety program supported by the top administration official?
16. Is there a safety department that provides training, equipment, and an evaluation of procedures?
17. Are all operators required to follow safe work procedures, such as the use of protective clothing and headgear, confined spaces, lock out policies, etc. ?
18. Is there a confined space entry procedure for manholes, wetwells, etc.?
19. How often are safety procedures reviewed and revised?
20. How does the safety department communicate with field personnel on safety procedures memo, direct communication, video, etc.?

Equipment and Tools

21. Is there a list of equipment and tools used for operation and maintenance?
22. Do personnel feel they have access to the necessary equipment and tools to do all aspects of operation and maintenance of its collection system?
23. Is there access to suitable equipment if the utility's equipment is down for repair?
24. Does the utility own or have access to portable generators?
25. Where does the utility store its equipment?
26. Is a detailed equipment maintenance log kept?
27. Are written equipment maintenance procedures available?
28. What is the procedure for equipment replacement?
29. Are the services of an in-house motor pool used?
30. What is the typical turnaround time of the motor pool?

Legal: Sewer Ordinance

31. Is there a sewer use and a grease ordinance?
32. Is there a system in place for enforcing sewer and grease ordinances?
33. Are all grease traps inspected regularly?
34. How does the utility learn of new or existing unknown grease traps?
35. Who is responsible for enforcing the sewer ordinance and grease ordinance? Does this party communicate with the utility department on a regular basis?
36. Are there any significant industrial dischargers to the system?
37. Is there a pretreatment program in place? If so, please describe.

Engineering: System Mapping and As-built Plans

38. What type of mapping/inventory system is used?
39. Is there a procedure for recording changes and updating the mapping system?

Engineering: Design

40. Is there a document which details design criteria and standard construction details. for gravity sewers, force mains, and pump stations?
41. Is there a document that describes the procedures that the utility follows in conducting design review? Are there any standard forms that guide the utility?
42. What procedures are used in determining whether the existing sewer system is adequate for new connections?
43. Is any metering of flow accomplished prior to allowing new connections?
44. Is there a model of the system used to predict the effects of new connections?
45. Is any certification as to the adequacy of the sewer system to carry additional flow from new connections required?

Engineering: Construction

46. Is there a document that describes the procedures that the utility follows in conducting their construction inspection and testing program? Are there any standard forms that guide the utility in conducting their construction inspection and testing program?
47. Is new construction inspected by the utility or others?
48. What are the qualifications of the inspector(s)?
49. Is inspection supervision provided by a registered professional engineer?
50. How is the new construction tested? (Air, water, weirs, etc.)
51. Is new construction televised?
52. Is new construction built to standard specifications established by the local utility and/or the State?
53. Is there a warranty for new construction? If so, is there a warranty inspection done at the end of this period?

Engineering: SSES and Rehabilitation

54. Have SSES's been performed in the past? If so, is documentation available?
55. Has any sewer rehab work been done in the past 15 years? If so, please describe?
56. How many sanitary sewer overflows have occurred in the last year? Is there a record?

Water Quality Monitoring

57. Is there a water quality monitoring program in the service areas? If so, what parameters are monitored and at what frequency?
58. How many locations are monitored?

Management Information Systems

59. What types of work reports are prepared by the operators?
60. Do the work reports include enough information? (See example report forms)
61. How are records kept?
62. Does the facility use computer technology for its management information system? If so, what type of system(s) does the utility use?
63. What kind of reports are generated from work report data?

Mangement Information Systems: Performance Indicators

64. What is the per capita wastewater flow for the maximum month and maximum week or day?
65. What is average annual Influent BOD?
66. What is the ratio of maximum wet weather flow to average dry weather flow?
67. What is the annual number of overflows, and what is the cause (i.e. blockage, pump malfunction, overloaded sewer, construction damage, etc.)?
68. What is the annual number of sewer cave-ins? What was the cause (i.e. pipe corosion, leaks, etc.)

Complaints

69. How are public complaints handled?
70. What are the common complaints received?
71. How often are these complaints reported? Is there a record?
72. Does the utility have a procedure in place to evaluate and respond to complaints?

Public Relations

73. Is there a public relations program in place?
74. Are the employees of the utility trained in public relations?
75. What type of public notification is given for treatment plant upsets or collection system overflows?
76. Is the public notified prior to major construction or maintenance work?
77. How often does the utility communicate with other municipal departments?

Emergency Maintenance and Contingency Plans

78. What type of Emergency maintenance plan does the utility have?
79. What type of Emergency maintenance equipment does the utility have available to them?
80. How quickly can the utility access that equipment in case of an emergency?

Spare Parts Inventory Management

81. Does the utility have a central location for the storage of spare parts?
82. Have critical spare parts been identified?
83. Does the utility maintain a stock of spare parts on its maintenance vehicles?
84. What method(s) does the utility employ to keep track of the location, usage, and ordering of spare parts? Are parts logged out when taken by maintenance personnel for use?
85. Does the utility salvage specific equipment parts when equipment is placed out-of-service and not replaced?
86. How often does the utility conduct a check of the inventory of parts to ensure that their tracking system is working?
87. Who has the responsibility of tracking the inventory?

Operation and Maintenance

Maintenance Scheduling

88. Does the utility schedule its maintenance activities?
89. How are priorities determined?
90. How is the effectiveness of the maintenance schedule measured?

Sewer Cleaning

91. Is there a routine schedule for cleaning sewer lines on a system wide basis, *e.g.*, at the rate of once every seven to twelve years or a rate of between 8% and 14% per year?
92. Is there a program to identify sewer line segments that have chronic problems and should be cleaned on a more frequent schedule?

Sewer Cleaning: Cleaning Equipment

93. What type of cleaning equipment does the sewer utility use?
94. How many cleaning units of each type does the utility have?
95. How many cleaning crews and shifts does the utility employ?
96. How many cleaning crews are dedicated to routine cleaning?
97. How many cleaning crews are dedicated to emergency cleaning?
98. What has the utility's experience been regarding pipe damage caused by mechanical equipment?
99. Where is the equipment stationed?

Sewer Cleaning: Chemical Cleaning and Root Removal

100. Does the utility have a root control program?
101. Are chemical cleaners used?
102. What types of chemical cleaner are used?
103. How often are they applied?
104. How are the chemical cleaners applied?
105. What results are achieved through the use of chemical cleaners?

Hydrogen Sulfide Monitoring and Control

106. Are odors a frequent source of complaints?
107. Does the sewer utility have a hydrogen sulfide problem, and if so, does it have in place corrosion control programs?
108. What are the major elements of the utility's program?

Lift Stations: Operation

109. How many personnel are detailed to pump station operations and maintenance?
110. Are these personnel assigned full-time or part-time to pump station duties?

Lift Stations: Emergencies

111. Is there suficient redundancy of equipment?
112. Who responds to lift station overflows? How are they notified?
113. How is loss of power at a station dealt with? (i.e. on-site electrical generators, alternate power source, portable electric generator(s))

Lift Stations: Alarms and Monitoring

114. How are lift stations monitored?

Lift Stations: Inspection

115. How often are lift stations visited?
116. What is inspected during these visits?
117. Is there a checklist?

Lift Stations: Preventative and Routine Maintenance

118. Is there a preventative maintenance program for lift stations and if so, what is involved in this program?
119. Is an adequate parts inventory maintained for all equipment?
120. Is there a sufficient number of trained personnel to properly maintain all stations?

Lift Stations: Recordkeeping

121. Are maintenance and operations logs maintained for all pump stations?
122. Are manufacturer's specifications and equipment manuals available for all equipment?
123. Are pump run times maintained for all pumps?
124. Are elapsed time meters used to assess performance?

Lift Stations: Force Mains and Air/Vacuum Valves

125. Does the utility regularly inspect the route of force mains?
126. Does the utility have a regular maintenance/inspection program for air/vacuum valves?

Sewer System Evaluation: Flow Monitoring

127. Does the utility have a flow monitoring program? If so, please describe.

Sewer System Evaluation: Manhole Inspection

128. Does the utility have a routine manhole inspection program?
129. Is there a data management system for tracking manhole inspection activities?
130. What triggers whether a manhole needs rehabilitation?

Sewer System Evaluation: Sewer Cleaning Related to I/I Reduction

131. Are sewers cleaned prior to flow monitoring?
132. Are sewers cleaned prior to internal T.V. inspection?

Sewer System Evaluation: Internal TV Inspection

133. Does the utility use internal T.V. inspection? If so please describe the program.

Sewer System Evaluation: Smoke Testing and Dyed Water Flooding

134. Does the utility have a smoke testing program to identify sources of inflow into the system? If so please describe.
135. Does the utility have a dyed water flooding program to identify suspected sources (indirect connections) of inflow into the system when smoke testing yields inconclusive results? If so please describe.
136. Is there a data management system for tracking these activities?
137. Is there a document that describes the procedures that the utility follows? Are there any standard forms?

Rehabiliation: Mainline Repairs/Sewer Lining

138. What type of main line repairs has the utility used in the past?
139. Does the utility currently use any of above techniques for main line repairs?

Rehabilitation: Manhole Repairs

140. What rehabilitation techniques are used for manhole repairs?
141. What type of documentation is kept?
142. Does the utility use manhole inserts?
143. Are they used system wide or only on low lying manholes?

Service Laterals

144. To what degree does the utility have responsibility for service laterals?
145. Does the utility have a written procedure for the approval and inspection of new construction service laterals?
146. Does the utility require service laterals to meet certain standards of construction? How are these standards made available to builders?
147. Does the utility have a procedure for discovering illegal tap-ins?
148. What is the utility's jurisdiction related to repair/replacement of service laterals?
149. Does the utility evaluate service lateral I/I as part of their system evaluation?

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